

CLAIMS

What is claimed is:

1. A composite leaf spring comprising:

a forward leaf spring segment comprising an arcuate member extending therefrom;
a rearward leaf spring segment of a lesser depth and a greater width than said
forward leaf spring segment; and

a mounting segment intermediate said forward leaf spring segment and said rearward
leaf spring segment.

2. The composite leaf spring as recited in claim 1, wherein any cross-section
taken perpendicular to the composite leaf spring defines a substantially equivalent cross-
sectional area.

3. The composite leaf spring as recited in claim 1, wherein said forward leaf
spring segment, said mounting segment and said rearward leaf spring segment define a non-
linear member.

4. The composite leaf spring as recited in claim 1, further comprising a mount
integral with said rearward leaf spring segment.

5. The composite leaf spring as recited in claim 1, further comprising a mount
overmolded to said rearward leaf spring segment.

6. The composite leaf spring as recited in claim 1, wherein said rearward leaf
spring segment comprises a substantially flat segment of a width greater than any other
segment of said composite leaf spring.

7. A suspension system comprising:

a composite leaf spring comprising a forward leaf spring segment defining an arcuate segment, a rearward leaf spring segment, and a mounting segment intermediate said forward leaf spring segment and said rearward leaf spring segment; and

a rear attachment system comprising a shear damper mounted to said rearward leaf spring segment.

8. The suspension system as recited in claim 7, wherein said shear damper is mounted directly to said rearward leaf spring segment.

9. The suspension system as recited in claim 7, further comprising a mount overmolded to said rearward leaf spring segment, said shear damper mounted directly to said mount.

10. The suspension system as recited in claim 7, further comprising a substantially rectilinear mount to receive said rearward leaf spring segment.

11. The suspension system as recited in claim 10, further comprising a resilient bumper between said mount and said rearward leaf spring segment.

12. The suspension system as recited in claim 7, further comprising a substantially rectilinear mount to receive said rearward leaf spring segment, said rearward leaf spring segment substantially free to longitudinally slide within said substantially rectilinear mount.

13. A method of mounting a composite leaf spring to a rear attachment system mounted to a vehicle mainframe comprising the steps of:

- (1) forming a rearward leaf spring segment as an end of a composite leaf spring;
- (2) attaching a shear damper between the rearward leaf spring segment and the vehicle mainframe such that the rearward leaf spring segment is longitudinally movable parallel to the vehicle mainframe as the shear damper moves in shear.

14. A method as recited in claim 13, wherein said step (2) comprises fixing the shear damper to the vehicle mainframe and a mount overmolded to the rearward leaf spring segment.

15. A method of mounting a composite leaf spring to a rear attachment system mounted to a vehicle mainframe comprising the steps of:

- (1) forming a rearward leaf spring segment as an end of a composite leaf spring;
- (2) slidably retaining the rearward leaf spring segment within a mount; and
- (3) attaching a shear damper between the mount and the vehicle mainframe such that the rearward leaf spring segment is longitudinally movable parallel to the vehicle mainframe as the shear damper moves in shear and the rearward leaf spring segment slides within the mount.